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TITLE : INDUCTION-HARDENED PARTS

ABSTRACT : PROBLEM TO BE SOLVED: To provide an induction-hardened parts securing a static strength of automotive power transmission system parts such as axle shafts, drive shafts, outer races for equal velocity joints or the like and furthermore excellent in impact bendability and impact twisting resistance.

SOLUTION: This parts is the one having a compsn. contg., by weight, 0.30 to 0.60% C, $\leq 0.50\%$ Si, 0.20 to 1.50% Mn, 0.0005 to 0.0050% B, $\leq 0.015\%$ N, $\leq 0.10\%$ Ti, and the balance Fe with impurities, in which surface hardness after induction hardening treatment is regulated to $\geq 50\text{HRC}$, furthermore having a uniform martensitic structure in which the rate of martensite in the induction- hardened structure is regulated to $\geq 90\%$, and in which the ratio of hardening depth (t), i.e., (effective hardening depth)/r (the parts radius or parts thickness) is regulated to 0.2 to 0.7.

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